

QUARTERLY REPORT
CONCERNING
MTBE USE IN
CALIFORNIA GASOLINE

July 1 through September 30, 2003

Report to the Legislature

STAFF REPORT

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CALIFORNIA ENERGY COMMISSION

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Quarterly Report Concerning MTBE Use in California Gasoline

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Background

Senate Bill 1001 (Burton), Chapter 814, Statutes of 1999, requires the California Energy Commission to prepare a quarterly report on the amount of methyl tertiary-butyl ether (MTBE) used in California gasoline. This report summarizes the amount of MTBE California refineries used during the third quarter — July 1 through September 30, 2003.

The amount of MTBE reported in this document is the quantity blended at each refinery location for use in California Reformulated Gasoline (CaRFG) production and intended for sale in the state. The numbers do not include any MTBE used at California refineries for the production of any type of gasoline intended for sale outside the state. In addition, several small refineries operating in the state are not included in this report because they do not produce gasoline.

MTBE is an oxygenate used in California gasoline production. California refiners also use two other oxygenates, ethanol and tertiary amyl methyl ether. Federal law requires California refiners to use a minimum amount of oxygen containing compounds in all reformulated gasoline sold in severe and extreme ozone-nonattainment regions of the state. Those areas in California (mostly in Southern California, the Sacramento Metropolitan Area, and the San Joaquin Valley) account for over 80 percent of the gasoline used in the state (as of December 2002).

The California Air Resources Board adopted reformulated gasoline regulations that enable refiners to produce fully complying gasoline without the use of any oxygenates. California petitioned for a waiver of the federal minimum-oxygen requirement. On June 12, 2001, the U.S. Environmental Protection Agency (EPA) denied the petition. If the request to waive the federal minimum-oxygen requirement had been granted, California refiners would have been able to reduce the volume of MTBE blended into gasoline. On July 17, 2003, the Ninth Circuit Court of Appeals ruled that the U.S. EPA must reconsider California's request to drop the oxygenate requirement for California. However, until refiners complete refinery modifications, they will likely need some MTBE to help them meet desired octane levels in premium grades of gasoline and in lower concentrations in other grades to help achieve compliance with reformulated gasoline specifications.

On March 15, 2002, Governor Gray Davis issued Executive Order D-52-02. This Order, allowed California refineries up to 12 additional months for the transition from MTBE to ethanol in gasoline. Under the new timeline, the MTBE phase-out will be accomplished

by December 31, 2003. The transition is going smoothly and the 4th Quarter reports will show very little MTBE is being used in the state.

Third Quarter 2003 Results

California refiners used almost 4 million barrels of MTBE to make CaRFG during the third quarter of 2003. This amount represents approximately 43,000 barrels or 1.8 million gallons of MTBE per day. Table 1 shows the use of MTBE by each refinery in California and total CaRFG production. The total volume of MTBE used by California's refiners increased by 28 percent compared to the second quarter of 2003. CaRFG production fell 0.3% percent from 91.4 million barrels in the second quarter to 91.2 million barrels in the third quarter of 2003. The average concentration of MTBE in California's gasoline was 4.4 percent in the third quarter of 2003, a one-percent increase from the previous quarter.

Figure 1 illustrates the average quarterly concentration of MTBE used in California's gasoline during the years of 2000 through the third quarter of 2003. The lower gasoline production combined with the increased MTBE concentration suggests that refiners have continued to use MTBE during their most productive time of year in an effort to maintain production levels. The inventory draw downs of MTBE also reflects refineries interest to use up remaining inventories of MTBE before the ban resulting in greater use of MTBE over the previous quarters. Refiners typically use MTBE as a blendstock to leverage their gasoline production while maintaining air quality standards as required by the California Air Resources Board.

Figure 2 compares the average quarterly spot prices in Los Angeles of CaRFG and MTBE. The relative price differences have become almost irrelevant to California refiners as the majority of gasoline is now being blended with ethanol.

As witnessed during the first and second quarters of 2003, the move by California's major refiners to phase out MTBE usage before the December 31, 2003 deadline was well underway. By the third quarter of 2003, one additional refiner reported zero usage of MTBE over the period. As of October 1, 2003, five refiners remain who are still using MBTE in their gasoline production.

Table 1
California MTBE Use by Refinery Location

Refiner	California Location	MTBE Use 3rd Qtr – 2003 (Thousands of Barrels)	MTBE Use 2nd Qtr – 2003 (Thousands of Barrels)	Change From Previous Quarter (Percent)
BP ¹	Carson	0	0	0%
ChevronTexaco ²	El Segundo	1	1	0%
ChevronTexaco ³	Richmond	815	401	103.2%
ExxonMobil ⁴	Torrance	0	0	0%
Kern Oil	Bakersfield	0	0	0%
ConocoPhillips ⁵	Los Angeles	0	10	-100%
ConocoPhillips ⁶	Rodeo	0	0	0%
Shell ⁷	Bakersfield	0	0	0%
Shell ⁸	Los Angeles	0	0	0%
Shell ⁹	Martinez	0	0	0%
Tesoro ¹⁰	Avon	791	710	11.4%
Valero ¹¹	Wilmington	1,196	951	25.8%
Valero ¹²	Benicia	1,196	1,048	14.1%
State Refinery MTBE Totals		3,999	3,121	28.1%
State CaRFG Production		91,166	91,449	-0.3%
Statewide Average MTBE Content		4.4%	3.4%	1.0%

Source: California Energy Commission form number Q1001

Figure 1
California Gasoline
MTBE Concentration

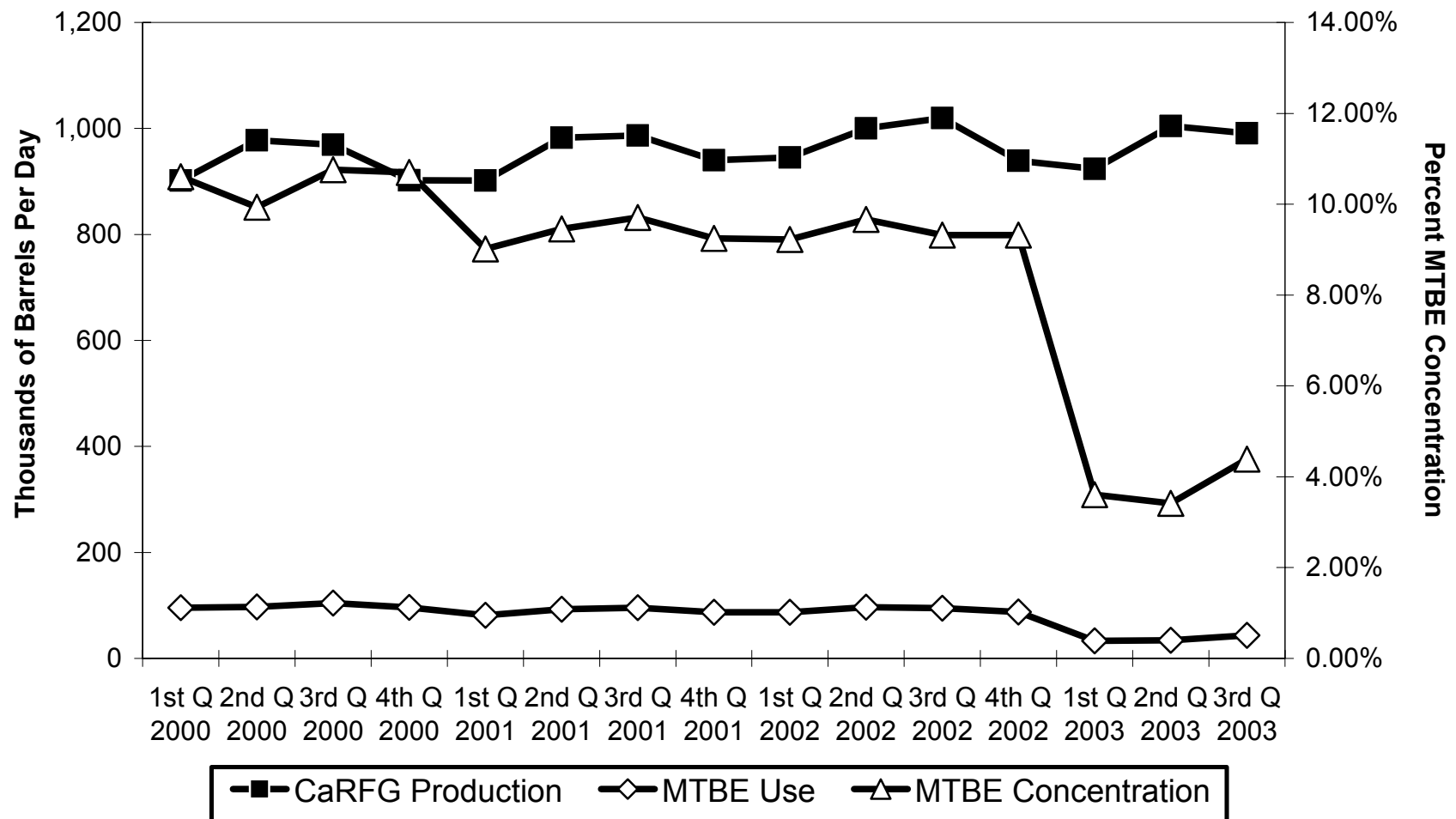
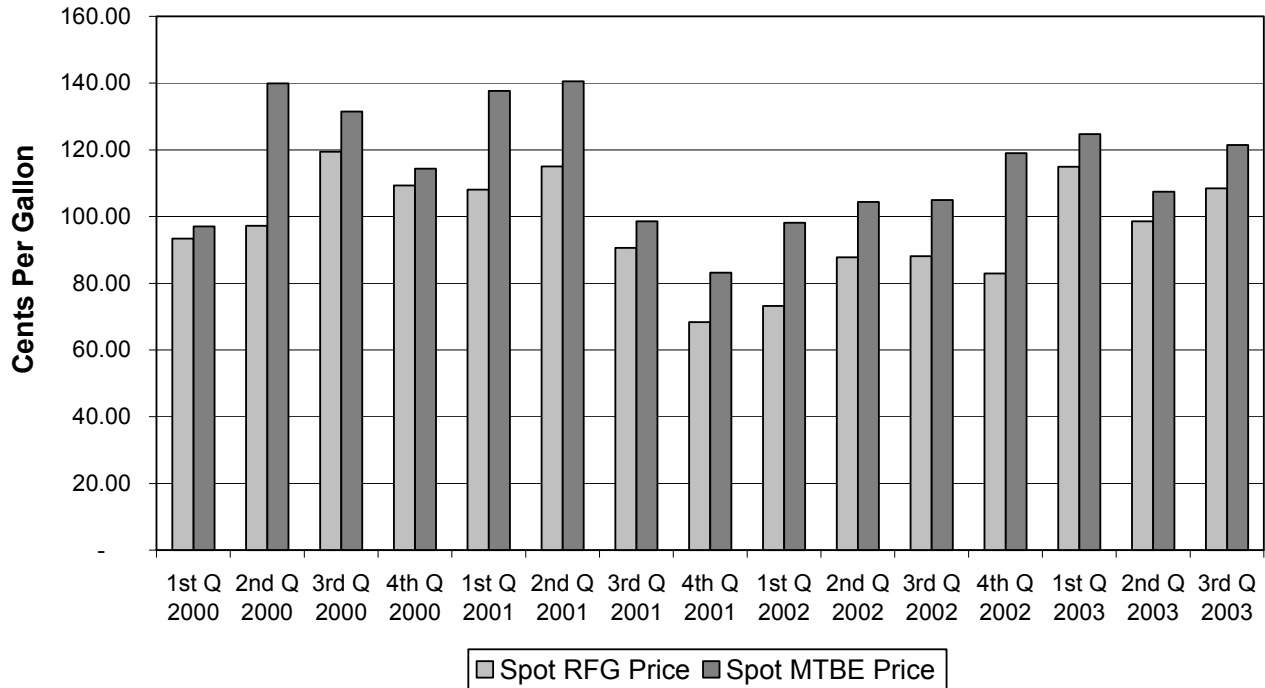


Figure 2
CaRFG vs. MTBE Spot Prices
Los Angeles



Source: California Energy Commission derived averages from the Oil Price Information Service Daily West Coast Spot Market Report and the Oxy-Fuel News Weekly Price Report.

End Notes

¹ BP Amoco merged with ARCO to form BP 4/18/00. Prior to the merger, this refinery was known as the ARCO – Carson refinery.

² Chevron merged with Texaco to form ChevronTexaco 9/30/01. Prior to the merger, this refinery was known as the Chevron – El Segundo refinery.

³ Chevron merged with Texaco to form ChevronTexaco 9/30/01. Prior to the merger, this refinery was known as the Chevron – Richmond refinery.

⁴ Exxon and Mobil merged 7/2000 to become ExxonMobil. This refinery was known as the Mobil Torrance refinery prior to the merger.

⁵ Phillips Petroleum Co. merged with Conoco Inc. 8/30/02 to form ConocoPhillips. Phillips Petroleum Co. previously acquired the Tosco Corp. 9/2001. This refinery was known as the Tosco – Los Angeles refinery prior to that purchase.

⁶ Phillips Petroleum Co. merged with Conoco Inc. 8/30/02 to form ConocoPhillips. Phillips Petroleum Co. previously acquired the Tosco Corp. 9/2001. This refinery was known as the Tosco – Rodeo refinery prior to that purchase.

⁷ Shell Oil Products acquired this refinery along with all of Equilon's western US refineries 3/2002. Equilon was a joint venture formed by Texaco and Shell 4/2000. Prior to the Equilon joint venture, the refinery was operated solely by Texaco and known as the Texaco – Bakersfield refinery.

⁸ Shell Oil Product acquired this refinery along with all of Equilon's western US refineries 3/2002. Equilon was a joint venture formed by Texaco and Shell 4/2000. Prior to the Equilon joint venture, the refinery was operated solely by Texaco and known as the Texaco – Los Angeles.

⁹ Shell Oil Products acquired this refinery along with all of Equilon's western US refineries 3/2002. Equilon was a joint venture formed by Texaco and Shell 4/2000. Prior to the Equilon joint venture, the refinery was operated solely by Shell and known as the Shell – Martinez refinery.

¹⁰ Tesoro Petroleum completed its purchase of this refinery from Valero on 05/17/02. Valero merged with Ultramar Diamond Shamrock (UDS) 12/2001. This refinery was known as the UDS– Avon or Golden Eagle refinery prior to the merger. UDS operated the refinery independently prior to the sale to Tesoro Petroleum.

¹¹ Valero merged with Ultramar Diamond Shamrock (UDS) 12/2001. This refinery was known as the UDS-Wilmington refinery prior to the merger.

¹² Valero purchased this refinery from ExxonMobil 5/2000. The refinery was known as the ExxonMobil – Benicia refinery prior to the purchase.